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TRANSACTIONS

OF

THE FOURTH ANNUAL MEETING

OF

THE MEDICAL SOCIETY

OF

THE STATE OF NORTH CAROLINA,

HELD AT

FAYETTEVILLE, N. C., MAY, 1853.

WILMINGTON, N. C.:
PRINTED BY FULTON & PRICE.
1854.

MINUTES

OF THE

PROCEEDINGS OF THE MEDICAL SOCIETY

OF

THE STATE OF NORTH CAROLINA.

FAYETTEVILLE, N. C., May 17th, 1853.

The Medical Society of the State of North Carolina, according to adjournment at its last annual meeting in Wilmington, convened to-day, at 4 o'clock, P. M., in the Odd Fellows' Hall in this town.

The President, Doctor JAMES E. WILLIAMSON, of Caswell county, took the chair and called the Society to order.

The Secretary being absent, on motion of Dr. McKee, of Raleigh, Dr. Haigh, of Cumberland, was appointed Secretary *pro tem.*

The Secretary called the roll, and the following officers and members answered to their names:

OFFICERS:

Dr. JAMES E. WILLIAMSON, Caswell, President,
Dr. WILLIAM G. HILL, Raleigh, Vice President.

MEMBERS:

Dr. William H. McKee, Wake,
" James A. McRae, Cumberland,
" Robert Tate, New Hanover.

The President appointed the following gentlemen a Committee on Credentials, viz: Drs. James A. McRae, Robert H. Tate, and William G. Hill. The Committee were granted time until to-morrow to make their report.

Adjourned until to-morrow morning, 9 o'clock.

WEDNESDAY, 9 o'clock, A. M., May 18th, 1853.

The Society met according to adjournment, the President in the chair. The minutes of the previous meeting were read and approved.

The following members of the Society appeared and took their seats:

Dr. Owen Hadley, Richmond,
" James H. Dickson, Wilmington,
" Daniel DuPre, do.
" W. W. Harriss, do.
" S. S. Satchwell, New Hanover.

The Committee on Credentials made the following report, which was accepted.

To the Medical Society of the State of North Carolina:

The Committee appointed to examine the Credentials of Delegates to the Fourth Annual Meeting of the Medical Society of the State of North Carolina, and to report the names of those present wishing to be, and qualified to become, permanent members of said Society, submit the following report:

On examination of Credentials, the following gentlemen were found entitled to seats as

DELEGATES:

NAMES.	RESIDENCES.
Dr. G. W. Blacknall,	Granville,
" Louis L. Holmes,	Chatham,
" Daniel DuPre,	New Hanover,
" Owen Hadley,	Richmond,
" S. S. Satchwell,	New Hanover.

They recommend the following gentlemen as permanent members of the Society:

PERMANENT MEMBERS.

NAMES.	RESIDENCES.
Dr. L. L. Holmes,	Chatham,
" A. D. McLean,	Robeson,
" H. F. Murphy,	Duplin,
" G. W. Blacknall,	Granville,
" C. T. Murphy,	New Hanover,
" C. C. Covington,	Richmond,
" John M. K. Alford,	Robeson,
" A. M. McKinnon,	Richmond,
" H. H. Robinson,	Bladen,
" Robert Monroe,	Cumberland,
" B. C. Williams,	do.

Respectfully submitted,

JAMES A. McRAE,
ROBERT TATE,
W. G. HILL, } *Committee.*

After the adoption of the above report, the permanent members elect, came forward and complied with the requirements of the Constitution in relation to membership.

Besides the above named delegates, and permanent members, numerous visitors were present during the sessions of the Society.

The Secretary, Dr. W. W. Harriss, stated that he was compelled to be absent much of the time of this Annual Meeting of the Society, and recommended that his place as Secretary be supplied by Dr. S. S. Satchwell. The recommendation was adopted, and Dr. Satchwell was requested by the Society to act as Secretary during the sessions of this Annual Meeting.

The President announced the appointment of the following Committees:

On Finance: Drs. C. T. Murphy, McLean and Holmes.

On Constitutions and By-Laws of Auxiliary Societies: Drs. J. H. Dickson, Hill and Covington.

On Nominations: Drs. W. H. McKee, Owen Hadley and J. A. McRae.

Moved, that Drs. McRae, Harriss and DuPre, be appointed a committee to make arrangements in reference to the time and place for the delivery of the Annual Address, by Dr. Dickson; and that they be requested to give notice of the same. Carried.

The Constitution and By-Laws of the Cumberland County Medical Association were laid before the Society. They were referred to the appropriate Committee on Constitutions and By-Laws. Subsequently the Committee reported and recommended that, inasmuch as the Constitution of the Cumberland Society conflicted in some respects with the Constitution of the State Society, the matter should be laid over. The recommendation of the Committee was adopted.

Dr. Satchwell offered the following resolution:

Resolved, That in ordering the publication of any paper that may be read before the Society, the Society shall not be considered as endorsing the doctrines or principles of the same. Adopted.

The Committee appointed at the last annual meeting of the Society to recommend some suitable plan for raising funds to defray the annual expenses of the Society, submitted the following report:

To the Medical Society of the State of North Carolina:

The Committee appointed at the last annual meeting of the Society to recommend some appropriate plan for raising funds to defray the expenses of the Society, respectfully submit the following report:

They recommend that the Constitution be so amended as to strike out the eighth article, and in its stead substitute the following:

ARTICLE VIII.

Of the Funds of the Society.

SEC. I. Funds for defraying the current expenses of the Society, shall be raised by annual assessments on the permanent members and County or District Societies, in connection with the State Society.

SEC. II. Each permanent member, after being duly elected and having signed the Constitution, shall pay the sum of five dollars as an admission fee, and be subject to the annual assessment of the Society, with the exception of the assessment for the year of his admission.

SEC. III. Should a permanent member fail to pay the assessments two successive years after having been notified by the Treasurer of his delinquencies, his name shall be stricken from the list of members.

SEC. IV. Each County or District Society shall pay through

the hands of its Delegate or Delegates, the annual assessment, and in case such County or District Society is not represented, it shall be the duty of the Treasurer to forward an account of said assessment to the Secretary or Treasurer of the County or District Society for collection.

SEC. V. Should a County or District Society in connection with this Society, fail to pay the annual assessments two successive years after having been notified by the Treasurer of its delinquencies, its right of representation in this Society shall be suspended until said assessments are paid.

Respectfully submitted.

JAMES H. DICKSON,
WILLIAM G. THOMAS, } *Committee.*
JOHN L. MEARES,

FAYETTVILLE, N. C., May 18, 1854.

The above report was unanimously adopted, and the Secretary was instructed to publish the Constitution as amended, in publishing the proceedings of this annual meeting.

Dr. Dickson offered the following resolution of amendment to the Constitution:

Resolved, That Section 6th, of Article 6th, of the Constitution, which is in the following words, viz: "A member of a County Society, who is censured or expelled, shall have a right to appeal to the State Society," be stricken out.

Objection being made to its adoption, the above resolution, in compliance with the requirements of the Constitution, lies over until the next annual meeting.

The Committee appointed at a previous annual meeting to petition the Legislature for the passage of a general Registration law, being called on, made, through its chairman, Dr. McKee, the following report, which was adopted.:

To the Medical Society of the State of North Carolina:

The Committee appointed at the last Annual Meeting of the Society, in Wilmington, to memoralize the Legislature to establish a law, requiring the registration of births and deaths throughout the State, beg leave to report:

In obedience to the instructions of the Society, the Committee endeavored, as far as lay in their power, to carry out its wishes. They did not present a formal memorial to the Legislature, but after having had a free interchange of opinion with a number of its members, they deemed it best to en-

trust the matter to several Physicians who were members of the Legislature. They obtained from them the following information:

"At the session of 1850 and '51, the late Dr. Cameron, who was at that time a member of the Legislature, had introduced a bill for the registration of births, deaths and marriages, but it was rejected, though the Legislature had passed a bill requiring the registration of marriages, and it was as much as could be obtained at present, but they entertained a hope that such a bill would be passed at a subsequent meeting of the Legislature.

Respectfully submitted.

W. H. McKEE, }
WILLIAM G. HILL, } *Committee.*

FAYETTEVILLE, N. C., May 17, 1853.

It was suggested that Dr. W. A. Norwood, formerly of Hillsboro', in this State, and who was a member of the above Committee, had removed from the State, and that his place on the Committee should be filled by some other gentleman who is a member of the Society. Dr. Satchwell was appointed to fill the vacancy occasioned by the removal of Dr. Norwood. The Committee were instructed to continue their exertions to secure the ends contemplated by their appointment.

The Committee appointed to arrange the time and place for the delivery of Dr. Dickson's Address, reported that they had secured the Baptist Church for that purpose, and recommended the hour of 4 o'clock this afternoon, as a suitable time. The report was adopted.

The Society adjourned to meet this afternoon at 3 o'clock.

WEDNESDAY, 3 o'clock, P. M.

The Society met according to adjournment, the President, Dr. Williamson, in the chair.

The minutes of the previous meeting were read and approved.

A written communication was handed in by Dr. McRae, from Dr. J. Graham Tull, of New-Berne, a delegate from this Society, who attended the recent meeting of the American Medical Association in New York, enclosing a printed abstract of the proceedings of said body, and expressing his regret at being

unable to attend the present annual meeting of this Society. All of which was referred to a Committee, consisting of Drs. H. F. Murphy, Tate, Blacknall and Holmes.

On motion of Dr. Satchwell, it was

Resolved, That in order to more effectually develope the Medical resources of the State—to encourage Medical talent, and improve the Medical Literature of the State, a Committee shall be appointed by the President, at each annual meeting of the Society, on each of the following branches, viz: Obstetrics, Surgery, Practice of Medicine and Epidemics of the State. That each Committee thus appointed, is requested to present to the Society a written report at the annual meeting succeeding the one of their appointment, and that the Profession throughout the State are hereby earnestly invited and requested to make to the Chairmen of these Committees contributions on the subjects named.

In compliance with the above resolution, the President announced the appointment of the following gentlemen to compose the several Committees named, to report at the next annual meeting.

On Obstetrics: Drs. William George Thomas, Daniel DuPre, W. G. Hill, W. H. McKee and L. L. Holmes.

On Surgery: Drs. N. J. Pitman, Edmund Strudwick, E. A. Anderson, C. F. Dewey, and E. H. Crudup.

On Practice of Medicine: Drs. Charles E. Johnson, J. Graham Tull, George W. Blacknall, John L. Meares and James A. McRae.

On Epidemics: Drs. Owen Hadley, James F. McRee, jr., C. T. Murphy, A. D. McLean and Robert H. Tate.

The hour having arrived for the delivery of the Annual Address, the Society proceeded in a body to the Baptist Church—where, in the presence of a crowded house of intelligent ladies and gentlemen, the Orator, Dr. Dickson, of Wilmington, delivered a learned and able Address on the subject of Respiration. It was listened to with much interest and admiration by the audience, and by its research and able views, will add to the reputation of its distinguished author, and contribute no little to the character at home and abroad of the Medical Profession of the State.

After the delivery of the Address, the Society adjourned to meet again at the Odd Fellows' Hall, to-morrow morning, at 9 o'clock, for the further transaction of business.

THURSDAY, 9 o'clock, A. M., May 19th, 1853.

The Society met according to adjournment, the President, Dr. Williamson, in the chair.

The minutes of the last meeting were read and approved.

On motion of Dr. W. G. Hill, it was

Resolved, That the thanks of the Society are due and are hereby tendered to Dr. James H. Dickson, for the able and interesting Address delivered by him on yesterday, before the Society, and that he be requested to furnish the Secretary with a copy of the same for publication, with the proceedings of the Society. (See Appendix A.)

On motion of Dr. W. W. Harriss, it was

Resolved, That a Committee of three be appointed to solicit subscriptions from the members of this Society, for the purpose of procuring a suitable stone, with an appropriate inscription, for insertion, in the name of the Society, in the Washington National Monument.

Drs. W. W. Harriss, W. G. Thomas and Daniel DuPre, were appointed to compose said committee.

On motion of Dr. DuPre, it was

Resolved, That this Society select, annually, from among its honorary members, one to prepare an Address or Essay, to be read before the Society, on the special diseases of his region of country, or on some other medical subject of his own selection.

In compliance with this resolution, Dr. James F. McRee, sr., was elected to prepare an Address or Essay, for the next annual meeting, and the Secretary was instructed to notify him accordingly.

Reports of Officers and Committees were called for.

The Secretary read letters from Drs. J. H. Hill, of New Hanover, and John T. Boyd, of Craven, who were at the last annual meeting elected honorary members, expressing their acknowledgments of the compliment conveyed in their election, and

accepting the same, and also expressing the deep interest felt by them in the objects of this Society.

A letter of resignation from Dr. Robert Gibbon, of Charlotte, was read and accepted.

The Treasurer submitted his annual report, as follows, which was adopted:

To the Medical Society of the State of North Carolina:

Your Treasurer begs leave to offer his annual report:

Received from Dr. J. J. W. Tucker, former Treasurer of the Society, - - - - - - - - - - - - - -	$13 30
Received from Dr. C. F. Dewey, Treasurer pro tem.,	190 00
Received on assessments, - - - - - - - - - - -	89 00
	$292 30
Credit by disbursements, - - - - - - - - - - -	277 96
Balance in Treasury, - - - - - - - - - - - - -	$14 34

Respectfully submitted.

DANIEL DuPRE, *Treasurer.*

FAYETTEVILLE, N. C., May 16, 1853.

The Committee on Finance made the following report, which was adopted:

To the Medical Society of the State of North Carolina:

The Committee on Finance beg leave to submit their report: They have examined the items and vouchers of the Treasurer, and find them all correct. They recommend that an assessment of three dollars be made upon each permanent member of the Society; they also recommend an assessment of three dollars upon each County or Auxiliary Society, in order to defray the expenses of the present session of this Society, and that the Treasurer be instructed to notify the permanent members and Auxiliary Societies of this assessment, and to collect the same at as early a period as possible.

Respectfully submitted.

C. T. MURPHY, *Chairman of Committee.*

FAYETTEVILLE, N. C., May 19, 1853.

The Committee appointed on the communication of Dr. Tull, of New-Berne, in reference to the last meeting of the American Medical Association, made the following report, which was received:

To the Medical Society of the State of North Carolina:

The Committee to whom was referred the communication of Dr. J. Graham Tull, the worthy Representative of our State Society at the last meeting of the American Medical Association, beg leave to report, that in the report of Dr. Tull, they see nothing calling for the special action of this Society.

They cannot, however, allow this occasion to pass, without calling the attention of this Society to the great value and importance of the National Medical Association to the Medical profession, and to the public at large.

Its published transactions from the first, able and voluminous, possess deep interest to all who love the medical profession. Nor does each revolving year, as their proceedings are recorded, render them less valuable and interesting to the Physician. To each member of the Society, who does not already own them, we can cordially recommend the purchase of the annual transactions of the Association from its institution. The transactions of the last meeting will be published during the year and furnished to each and every Physician who desires them, at as low a rate as the Association can afford.

Respectfully submitted.

H. F. MURPHY, *Chairman.*

FAYETTEVILLE, N. C., May 19, 1853.

The Committee on nominations made the following report, which was adopted:

To the Medical Society of the State of North Carolina:

The Committee on nominations beg leave to report:

They recommend the following gentlemen to fill the various offices:

FOR PRESIDENT:

Dr. James H. Dickson, Wilmington.

FOR VICE PRESIDENTS:

1st—*Dr. N. J. Pittman,* Tarboro',
2d—*Dr. J. G. B. Myers,* Washington,
3d—*Dr. J. Graham Tull,* New-Berne,
4th—*Dr. A. D. McLean,* Robeson.

FOR CORRESPONDING AND RECORDING SECRETARY:

Dr. S. S. Satchwell, New-Hanover.

FOR TREASURER:

Dr. Daniel DuPre, Wilmington.

ORATOR:

Dr. J. B. Jones, Chapel Hill.

DELEGATES TO THE NATIONAL MEDICAL ASSOCIATION:

Dr. C. E. Johnson, Raleigh,
" *Edward Crudup,* Louisburg,
" *L. Frink,* Brunswick,
" *W. W. Harriss,* Wilmington,
" *C. F. Dewey,* Goldsboro',
" *C. C. Covington,* Richmond.

HONORARY MEMBERS:

Dr. S. McClanahan, Chatham,
" *S. B. Everett,* New Hanover,
" *James J. Phillips,* Edgecombe,
" *J. D. Bellamy,* Wilmington.

They also recommended the adoption of the following resolution:

Resolved, That the delegates to the American Medical Association be authorized, should circumstances render it impossible for them to attend the next annual session, to appoint a proxy in their stead, said proxy to be selected out of the regular members of this Society.

Respectfully submitted.

W. H. McKEE,
J. A. McRAE, } *Committee.*
OWEN HADLEY,

FAYETTEVILLE, N. C., May 19th, 1853.

On motion, the nominating committee were added to the above list of delegates to the next meeting of the American Medical Association.

On motion of Dr. Tate, it was

Resolved, That the Secretary be instructed to have bound, in proper book form, one dozen copies of the Minutes as published in pamphlet form, of the annual proceedings of the Society from its organization up to, and including, this annual meeting, and that he be requested to make such distribution of them to the public Libraries of the State as may seem to him best.

A motion was made to reconsider the vote upon the resolution offered on yesterday by Dr. Dickson, to the effect that a member, after having been expelled from a County Auxiliary

Society, shall be deprived of the right of appeal to the State Society. After considerable debate, the motion for reconsideration prevailed; and, at this stage, Dr. Dickson withdrew said resolution of amendment to the Constitution, as previously offered by him.

The President announced that it was in order for the Society to hear oral and written communications on medical subjects.

Dr. Holmes, of Chatham, proceeded to entertain the Society with a verbal report of some cases of epidemic dysentery that occurred in his practice in the year 1851. In giving his views thereupon, he contended for the correctness of the vital doctrines of life and disease in opposition to the chemical theory.

On motion, Dr. Holmes was requested to write out his report for publication with the proceedings of this annual meeting. (See appendix B.)

Dr. McKee, of Raleigh, made some interesting remarks relative to some important and novel cases of disease that had recently occurred in his practice.

On motion, he was requested to prepare a report of the same for publication, as, in the opinion of the Society, it would be of interest to the profession at large.

Dr. Hadley, of Richmond, detailed some recent cases of dysentery that had been treated by him, of a peculiar character. He also made an interesting oral communication respecting a form of continued fever that prevailed in Richmond and Montgomery counties, in the years of 1845, '46 and '47, and which returned in the summer of 1852.

On motion, Dr. Hadley was requested to prepare his cases and views of fever and dysentery for publication with the proceedings of the Society.

A free and interesting interchange of views on the subject of fever in general then ensued, between various members of the Society, which was continued for two hours or longer, to the evident interest and gratification of all present.

On motion, it was carried, that the Secretary have published, for distribution, five hundred copies of the proceedings of this meeting.

On motion, it was carried, that the Secretary be requested to return the thanks of the Society to the Trustees of the Baptist Church for the use of the same in the delivery of Dr. Dickson's Address.

Also, that the Secretary return the thanks of the Society to the officers of the Odd Fellows' Hall in this place, for their kindness in granting us the use of said Hall to hold our meetings.

On motion of Dr. Hill, it was unanimously

Resolved, That the thanks of the Society are due and are hereby tendered to our President, Dr. James E. Williamson, for the able, impartial and dignified manner in which he has presided over the deliberations of this body since his administration as President began.

Whereupon, Dr. Williamson arose and spoke as follows:

Fellow Members of the North Carolina Medical Society:

I should do injustice to my own feelings, were I to retire from the position in which you have placed me, without tendering to you my grateful acknowledgments for the honor conferred on me, and expressing my thanks for the manner in which you have borne with my many defects, as your presiding officer, growing out of my inexperience in matters connected with parliamentary law.

In retiring from the chair, I cannot but think that I am at least in the range of my duty, if I should occupy a few moments of your time in endeavoring to impress on your minds the necessity of perseverance, on your part, in the great cause of Medical Reform, which is the grand point to be obtained in the formation of our present association. And, in order to success, the constant, undivided and vigorous efforts of every individual member of our Society are loudly called for. It requires but a glance at the condition of the Medical profession, in different parts of our beloved country, to see that something must be done, or our glorious profession will soon be brought on a level with the most common calling or occupation of the day. Instead of that learning, high-toned, moral integrity, and gentlemanly demeanor, which characterize the accomplished physician and gentleman, we shall have our ranks filled with ignorant pretenders—men who practice medicine as the blacksmith hammers his iron, merely to enable him to live thereby. This ought not so to be, and I am gratified, when I look over this Hall, to see so many high minded gentlemen who have associated themselves for the noble purpose of bear-

ing aloft the standard of our profession, and who are determined, so far as they are concerned, that it shall not, at least, be lowered, in its claims, on a confiding people. Suffer me, gentlemen, on this occasion, to bid you God speed. Let your motto be onward and upward, and suffer not your energies to be relaxed until you shall have planted the standard of your profession on the highest eminence in the temple of science.—This is the position it merits, and, provided you let your whole soul be engaged in the effort, there it must ultimately rest.

To those of you who have been for years engaged in the profession, it will be needless for me to give advice and encouragement in your efforts to promote the interests of that profession. Your presence here on this occasion—the interest you have manifested in the success of our Society, tell loudly that you have engaged heartily in the good cause, and I feel proud that I am this day associated with such noble spirits in so good a cause. On some of us, Time, with its heavy hand, has already made strong marks. We have arrived at that period in life when the whitened locks and furrowed cheeks say stay thy efforts, or suddenly you will be cut off from the stage of action. The time has been when you could labor in the profession and your physical system could bear up, but time has pressed heavily on you, and the fatigues incident to the practice of a profession which calls into requisition every power of the man, both physical and intellectual, have so enfeebled you that you are compelled to retire from, at least the laborious parts, of the profession.

But, still, there is much for you to do. You should not sit down quietly and look on, when the world is just waking up to a proper sense of the importance of your profession. Can you not, by your efforts, contribute something to the cause? Are you willing to sit still and see ignorance, empiricism and charlatanism triumph over truth, science and merit? I cannot believe it, gentlemen—I cannot believe it. Let me beg you then to continue to lend your aid to the good cause in which you have already engaged. Let me say to you, encourage the younger members of the profession to take this thing in hand, and when you see a youth in the profession who has to contend with difficulties—with poverty, and adversity, spurn not such an one from your Society, but take him under your wing, and give to him aid and comfort, and know that, in so doing, you advance the good cause.

To the junior members of the Society I would say, you have enlisted in a good cause, and it is necessary you should exert yourselves, in order that you should be able to do what the

profession and Society requires you should do. On you will devolve the task of bearing the standard of the profession. Soon, very soon, all those who have borne the heat and burden of the day, will retire. Already their heads are silvered over, and they are but wrecks of what they were in bygone days. And you will be called on to fill their places.—And here permit me to say, that more will be expected of you than was of them. The facilities for the acquisition of medical knowledge, at the present day, far, very far, transcend what they were twenty years since, and the profession over the country will expect more from you than it did from your fathers in medicine. Will you disappoint their expectations? Will the legacy bequeathed to you by the labor, toil and fatigue of your fathers be squandered, and no improvement made on it? I cannot thus believe, and I should be guilty of injustice to you, and to a spirit which has been manifested on this occasion, were I thus to declare. Suffer me, then, to urge on you the necessity to vigorous action on this subject. Never compromise the dignity of your profession; never suffer mere mercenary motives to actuate you in the discharge of its duties; but ever remember that you are laboring in a good cause; and that, under Providence, you may be the instruments of doing much good in time; and that eternity alone can disclose the incalculable benefits which our noble profession has conferred on society.

Gentlemen, permit me to congratulate you on the happy selection which I conceive you have made of an individual to fill the office of presiding officer. His distinguished ability as a medical man—his experience as a practitioner, and his skill as a presiding officer, eminently qualify him to preside over our deliberations with honor to himself and credit to the Society.

Suffer me, in parting with you, to say to you that I hope you may safely return to the fond embraces of your families. Such of you as have wife, children and friends; and such of you as have not, let me advise you, without delay, to have them, as it is said in holy writ, that "it is not good for man to be alone." I have no doubt but that the declaration is true; not, however, having tested the truth of the assertion, I make it with entire confidence in the validity of the Bible, which I believe to be truth.

And now, in the hope that I shall see you all again, in the city of Raleigh, at our next annual meeting, filled with increased fire and energy, for the success of the good cause, allow me to bid you an affectionate farewell.

Dr. Williamson then vacated the chair, and the newly elected President, Dr. James H. Dickson, of Wilmington, was conducted to the chair by Drs. McKee and Hadley.

Dr. Dickson returned his thanks, in an appropriate manner to the Society, for the honor conferred in his election, and pledged his hearty support and devotion to the interests and prosperity of the North Carolina Medical Society.

The thanks of the Society were then, on motion of Dr. DuPre, returned to the Secretary and Treasurer, for the faithful discharge of their respective duties.

The President announced the appointment of the following gentlemen, of Raleigh, as a Committee of Arrangements for the next Annual Meeting of the Society, viz: Drs. William G. Hill, William H. McKee, Charles E. Johnson and E. B. Haywood.

On motion of Dr. Hill, the Society adjourned, the business being finished, to meet in the city of Raleigh, on the second Tuesday in May, 1854.

JAMES E. WILLIAMSON, M. D.,
President.

S. S. SATCHWELL, M. D., *Secretary.**

NOTE.—The Secretary deems it to be an act of justice to himself, to state in this place, the cause of the delay of the publication of the proceedings of this annual meeting of the Society. The delay was caused by the failure of those members of the Society who made reports, to send manuscripts of the same to the Secretary, for publication with the proceedings, as they were requested to do. After calling on such members again and again for their manuscripts, and even after waiting on them for so many months, the Secretary regrets to be compelled to state that, with one exception, these written reports have not been sent in, owing, as was alledged, to pressing professional engagements. But for this, these Transactions would have been out long ago.

CONSTITUTION

OF THE

MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA,

As adopted May, 17th, 1849, and as amended at its First Annual Meeting, in April, 1850, and at its Fourth Annual Meeting, in May, 1853.

ARTICLE I.—*Title of the Society.*

The name and title of the Society shall be "The Medical Society of the State of North Carolina."

ARTICLE II.—*The Objects of the Society.*

The objects of this Society shall be the advancement of Medical knowledge, the elevation of professional character, and the promotion of all measures of a professional nature that are adapted to the relief of suffering humanity, and to improve the health and protect the lives of the community.

ARTICLE III.—*Members of the Society.*

Sec. 1. This Society shall consist of Permanent Members, Delegates, Associates, and Honorary Members.

Sec. 2. The Permanent Members shall consist of such regular Physicians as shall be admitted on motion of a Member: *Provided*, he receives two-thirds of the votes present; and the Member thus admitted shall be entitled to all the privileges of the Society. He must first sign the Constitution and By-Laws, and pay the assessment.

Sec. 3. The Delegates shall receive their appointment from the County Societies, and from the Counties that have no Societies, a Delegate may be appointed by the Profession of the County: *Provided*, they have as many as two regular Practitioners within the County.

Sec. 4. Every Delegate, before admission to a seat in the Society, shall produce a certificate of delegation, signed by the

President or Secretary of the County Society or Association, and shall sign the Constitution and pay the assessment.

Sec. 5. Each Delegate shall hold his appointment for one year, or until another is appointed to succeed him.

Sec. 6. Every member of a County Society shall be an Associate Member of the State Medical Society.

Sec. 7. An Associate Member shall be entitled to all the privileges of attending upon the deliberations of the Society, and take part in its discussions, but shall not be allowed to vote, nor shall he be eligible to office.

ARTICLE IV.—*Of the Officers.*

Sec. 1. The officers of this Society shall be a President, four Vice Presidents, a Corresponding and Recording Secretary, and a Treasurer.

Sec. 2. Each officer shall be elected by vote, *viva voce,* and shall serve for one year, or until another is elected to succeed him.

Sec. 3. None but Permanent Members and Delegates shall be eligible to the office of President, Vice President, Secretary, or Treasurer.

ARTICLE V.—*Duties of the Officers.*

Sec. 1. The President shall preside at the meeting, preserve order, and perform such other duties as custom and parliamentary usage may require. He may be eligible for two terms in succession.

Sec. 2. The Vice Presidents, when called upon, shall assist the President in the performance of his duties, and during the absence, and at the request of the President, one of them shall officiate in his place. They shall be eligible for two terms in succession.

Sec. 3. The Corresponding and Recording Secretary shall conduct the correspondence, and perform such other duties as usually appertain to that office; and shall keep correct minutes of the proceedings of the Society, and shall fairly transcribe the same, when approved, in a book, to be kept for the purpose. He shall have charge of all papers belonging to the Society, other than those appertaining to the Treasurer; and shall give due notice of the annual meetings; and shall receive such compensation as the Society may from year to year determine.

Sec. 4. The Treasurer shall receive all moneys belonging to the Society, and disburse them as directed, preserving vouchers for the same. He shall annually present a statement of the

finances of the Society, which shall be referred to a committee of three Delegates, to be audited.

ARTICLE VI.—*Of the County Societies.*

SEC. 1. The members of the Profession in any County of this State, who form themselves into a County Society, may become auxiliary to this Society: *Provided*, That all the regular Practitioners in the County have been invited to unite in its organization, *and provided*, that the constitution, and laws of such Society do not contravene those of the State Society.

SEC. 2. No one shall be admitted as a member of the County Society, unless he is either a graduate in Medicine of some respectable Medical School, or has been a Practitioner for at least five years; and who, moreover, is in good moral and professional standing in the place where he resides, and is a regular Practitioner.

SEC. 3. Any Physician who shall procure a patent for a remedy, or instrument of surgery, or who shall hereafter give a certificate in favor of a patent remedy, or instrument, shall be deemed disqualified from becoming a member of a County Society.

SEC. 4. As soon as the County Society is organized, the Secretary thereof shall transmit to the Corresponding and Recording Secretary one copy of the Constitution and By-Laws, with the names of their officers and members. The Society shall be authorized to elect one Delegate to the State Society for every five of its members.

SEC. 5. Every County Society shall enforce the observance by its members of the Code of Ethics adopted by the State Society, and they shall be authorized to censure or expel any member convicted of violating its provisions.

SEC. 6. A member of the County Society who is censured or expelled, shall have a right to appeal to the State Society.

SEC. 7. A member who is expelled, shall be debarred from the rights of consultation, or the privileges of Professional intercourse with any member of the State Society.

SEC. 8. The County Societies shall report annually to the State Society a list of their officers and members, any new rules which they may adopt, and such other matters as they may deem interesting.

SEC. 9. The County Society shall hold at least two meetings in each year.

SEC. 10. If any County Medical Society shall neglect to perform all such acts as may be required to be done by the laws

of the State Society, or shall be guilty of conduct derogatory to the honor of the Medical profession, or shall oppose or neglect to comply with the laws of the State Society, such County Society shall, during such delinquency, have their privileges, as a portion of the State Society, suspended, and their Delegates shall not be entitled to a seat in the State Society.

ARTICLE VII.—*Meetings of the Society.*

The Society shall hold an Annual Meeting. The time and place of meeting shall be determined, for each succeeding year, by a vote of the Society.

ARTICLE VIII.—*Of the Funds of the Society.*

Sec. 1. Funds for defraying the current expenses of the Society shall be raised by annual assessments on permanent members and County or District Societies, in connection with the State Society.

Sec. 2. Each permanent member, after being duly elected and having signed the Constitution, shall pay the sum of five dollars as an admission fee, and be subject to the annual assessment of the Society, with the exception of the assessment for the year of his admission.

Sec. 3. Should a permanent member fail to pay the assessments two successive years after having been notified by the Treasurer of his delinquencies, his name shall be stricken from the list of members.

Sec. 4. Each County or District Society shall pay through the hands of its Delegate or Delegates, the annual assessment; and in case such County or District Society is not represented, it shall be the duty of the Treasurer to forward an account of said assessment to the Secretary or Treasurer of the County or District Society for collection.

Sec. 5. Should a County or District Society in connection with this Society, fail to pay the annual assessment two successive years after having been notified by the Treasurer of its delinquencies, its right of representation in this Society shall be suspended until said assessments are paid.

ARTICLE IX.—*Code of Ethics.*

This Society adopts, as a part of its regulations, that part of the Code of Ethics of the American Medical Association, which it has published by its order.

ARTICLE X.—*Provisions for Amendments.*

Every proposal for altering or amending this Constitution shall be made in writing; and if such alteration or amendment receives the unanimous vote of the members present, it shall be adopted; but, if objections be made, the alteration or amendment shall lie over until the next Annual Meeting, when, if it receives the vote of two-thirds of the voters present, it shall be adopted.

BY-LAWS.

ARTICLE I.—*Of the Order of Business.*

1. The President, or in his absence, the senior Vice-President, shall call the Society to order; or in case of the absence of all these officers, a Chairman shall be appointed *pro tem.*, for the purpose.
2. The appointment of a Committee to examine the Credentials of Delegates.
3. The Report of the above named Committee.
4. Calling the Roll.
5. Resolutions introducing new business.
6. Reading the Minutes.
7. Any business which requires early consideration may, by permission, be introduced.
8. Reports from the County Societies.
9. The Correspondence shall be read by the Corresponding Secretary.
10. Written Communications on Medical subjects may be read and discussed.
11. Oral Communications may be made and discussed.
12. Electing Officers.
13. The selection of a place for the next Meeting of the Society.
14. Unfinished and Miscellaneous business.

ARTICLE II.

The Permanent Members shall pay a fee of five dollars on being admitted as members of this Society.

LIST OF OFFICERS AND PERMANENT MEMBERS WITH THEIR POST OFFICES.

NAMES.	POST OFFICES.
Dr. James H. Dickson, President, - -	Wilmington, N. C.
" N. J. Pittman, 1st Vice President,	Tarborough, "
" J. G. B. Myers, 2d do. - -	Washington, "
" J. Graham Tull, 3d do. -	Newbern, "
" A. D. McLean, 4th do. - -	Robeson, "
" S. S. Satchwell, Secretary,- -	Long Creek, "
" Daniel DuPre, Treasurer, - -	Wilmington, "
" James E. Williamson, - -	Yanceyville, "
" William G. Hill, - - - -	Raleigh, "
" W. W. Harriss, - - -	Wilmington, "
" Edmund Strudwick, - - -	Hillsborough, "
" William G. Thomas, - -	Wilmington, "
" Charles E. Johnson, - - -	Raleigh, "
" W. H. McKee, - - - -	" "
" Fabius J. Haywood, - - -	" "
" John T. Hicks, - - - -	Fish Dam, "
" Edward H. Crudup, - - -	Louisburg, "
" Joseph B. Mann, - - -	" "
" John L. Meares, - - - -	Wilmington, "
" L. D. Schoolfield, - - -	Hillsborough, "
" Richard B. Haywood, - - -	Raleigh, "
" Thomas H. Turner, - - -	Hillsborough, "
" William Webb, - - - -	" "
" J. B. Jones, - - - -	Chapel Hill, "
" Octavius Hooper, - - - -	Hillsborough, "
" James A. McRae, - - -	Fayetteville, "
" James F. McRee, Jr., - - -	Wilmington, "
" Pleasant P. Peace, - - -	Tabb's Creek, "
" Leonidas A. Jeffreys, - - -	Franklinton, "
" William M. Broocks, - -	Milton, "
" John Q. Anderson, - - -	Anderson's Store, "
" Henry Seawell, - - -	Eagle Rock, "
" James B. Dunn, - - - -	Forestville, "
" William S. Crenshaw, - -	" "
" Alexander H. Taylor, - - -	" "
" L. Cheves Manly, - - -	Raleigh, "
" Nicholas L. Stith, - - -	Haywood, "
" John R. Mercer, - - -	Rocky Mount, "

NAMES.	POST OFFICES.
Dr. Charles F. Dewey, - - -	Goldsborough, N. C.
" John R. Thompson, - - -	Smithfield, "
" J. P. Henry, - - - -	Colerain, "
" J. Marcellus Taylor,- - -	Stanhope, "
" Nereus Mendenhall, - - -	Jamestown, "
" Joel D. Battle, - - -	Everettsville, "
" Wm. B. Miller, - - - -	Raleigh, "
" E. Burke Haywood, - - -	" "
" Joseph J. W. Tucker, - - -	" "
" James P. Bryan, - - -	" "
" A. B. Pierce, - - - -	Halifax, "
" A. D. Moore, - - - -	Kenansville, "
" Henry W. Faison, - - -	Faison's Depot, "
" Elias F. Shaw, - - -	" "
" Robert H. Tate, - - - -	So. Washington, "
" Allmand Holmes, - - -	Clinton, "
" Thomas J. Boykin, - - -	" "
" L. Frink, - - - -	Shallotte, "
" Elias K. Faison, - - - -	Strickland's' "
" B. F. Whitaker, - - -	Enfield, "
" John Swann, - - - -	Wilmington, "
" Samuel J. Iredell, - - -	Raleigh, "
" John W. Hutchings, - - -	Murfreesboro', "
" W. L. Long, - - - -	Halifax, "
" Henry Joyner, - - - -	" "
" Owen Hadley, - - - -	Powelton,Rich'd, "
" William H. Moore, - - -	Chapel Hill, "
" Thomas Woodley, - - -	Kinston, "
" W. G. Curtis, - - - -	Smithville, "
" E. A. Anderson, - - -	Wilmington, "
" D. B. Gillespie, - - - -	Westbrook, "
" L. L. Holmes, - - - -	Chatham, "
" A. D. McLean, - - - -	Robeson, "
" H. F. Murphy, - - -	Duplin, "
" George W. Blacknall, - - -	Henderson dep't, "
" C. T. Murphy, - - - -	Moore's Creek, "
" C. C. Covington, - - - -	Rockingham, "
" John M. K. Alford, - - -	Alfordsville, "
" A. M. McKinnon, - - -	Floral College, "
" H. H. Robinson, - - -	Elizabethtown, "
" Robert Monroe, - - - -	Cumberland, "
" B. C. Williams, - - -	" "

HONORARY MEMBERS.

NAMES.	POST OFFICES.
Dr. Frederick J. Hill, - - -	Wilmington, N. C.
" James F. McRee, Sen., - -	" "
" A. J. DeRosset, - - - -	" "
" Benjamin Robinson, - -	Fayetteville, "
" James Webb, - - - -	Hillsborough, "
" Edward T. Broadnax, - -	Leaksville, "
" Simmons J. Baker, - - -	Raleigh, "
" William C. Warren, - -	Edenton, "
" Joseph Togno, - - -	Wilmington, "
" John T. Boyd, - - - -	Newbern, "
" J. H. Hill, - - - -	Wilmington, "
" James J. Philips, - - -	Battleboro', "
" S. McClanahan, - - -	Chatham county, "
" S. B. Everett, - - - -	Wilmington, "

APPENDIX.

[A.]

ADDRESS

OF

JAMES H. DICKSON, M. D.,

Delivered before the Medical Society of the State of North Carolina, at its Fourth Annual Meeting, held in Fayetteville, N. C., in May, 1853:

It has been well remarked, by an acute French writer, that man has ingenuity enough to ask a great number of questions, which he has not the sagacity to answer.

Such, however, is the constitution of his mind, that he is continually striving after the solution of unsolved and, in many instances, perhaps unsolvable problems; and, though often baffled in his attempts to arrive at truth, his dilligent and persevering efforts are frequently rewarded by an approximation thereto, or its actual discovery; while, in other instances, he is compelled to take refuge, for the present at least, in such hypothesis as may seem to explain it.

In this observation, we discover the origin and use of the numerous theories which have, in so signal a manner, marked the progress of the medical sciences throughout their entire history, and which find such frequent illustration in the department of Physiological investigation—a department which constitutes one of the scientific bases of practical medicine.

There is perhaps no function of the animal economy which has claimed more the attention and exercised more the ingenuity of professional and extra-professional men of science, than that of Respiration.

Great obscurity must necessarily have overhung this vital process of animals, before the discovery of oxygen, as a constituent of atmospheric air, by Dr. Priestly, in 1774, and that of carbonic acid gas by Dr. Black. Yet a very ingenious approximation was made to as much knowledge of the subject as is generally entertained at the present day, by *Mayow, in 1674, who appears to have first advanced the opinion that the effect of respiration was to generate heat, and not to cool the blood heated by its rapid circulation throughout the body, as was taught by still earlier physiologists; and that it does this by a process analagous in all respects to combustion.

His method of experimenting, too, was one as well calculated to establish his views as any which have since been devised. He burned a candle under a receiver, and found the air remaining in it, after combustion, incapable of supporting animal life. He then placed a mouse under a receiver and caused it to breathe a similar quantity of air, and soon discovered the necessity of renewing it. After this, he placed a mouse and a candle together under the receiver, and found that the mouse lived only half as long as when alone under the glass. He then endeavored to burn a candle in the air, deteriorated by breathing, and found it impossible.

His conclusion, "that the nitro-œrial particles were absorbed, both by the candle and the animal," was substantially correct, and has only been modified in phraseology, and somewhat extended and rendered more precise by subsequent discoveries.

The great discoveries in Pneumatic Chemistry, made by Black, Priestly, Crawford and Lavoisier, threw a flood of light upon the subject, and furnished the substantial foundation upon which the generally received theory of the Respiratory process has been erected.

That theory, as you are well aware, regards the Respiratory function as subservient to the production of animal heat, by the conversion of the carbon of venous blood into carbonic acid, by a process essentially the same as that of combustion.

The theory of Black and Lavoisier, which assumed that the heat was generated in the lungs by the combustion of the carbon, and was distributed thence throughout the body, underwent a good deal of discussion at the time of its promulgation, and was objected to, upon the ground that, if true, the heat should be greater in the lungs than in other parts of the system.

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*Med. Chir. Rev

This objection is said to have operated so powerfully on the mind of Dr. Black, as to have induced him to abandon the theory as untenable. For a time, however, it was obviated by the very ingenious application by Dr. Crawford of Dr. Black's theory of latent heat, to its explanation.

Dr. Crawford assumed that the capacity of arterial blood, for caloric, was greater than that of venous blood, and that the heat generated in the lungs became latent in the arterial blood, and was again rendered sensible on the conversion of arterial into venous blood in the systemic capillaries.

Another difficulty, however, soon presented itself in the way of this explanation, in the fact discovered by Drs. Edwards and Magnas, that the venous blood brings to the lungs, not carbon, but carbonic acid, and that arterial blood contains free oxygen; and, moreover, Dr. John Davy ascertained that if there is any difference in the capacity of arterial and venous blood for caloric, it is in favor of the latter. Furthermore, the truth of the theory of latent heat itself, is in a fair way of being subverted by the new doctrine of the correlation of the physical and vital forces recently promulgated by Drs. Grove and Carpenter.

These objections have driven physiologists to seek for the source of animal heat in the systemic capillaries, as well as in those of the lungs, and to refer it to the metamorphosis of the tissues, which is constantly going on throughout the body, still, however, by the agency of the inspired oxygen.

The experiments instituted by Lavoisier on the subject, led him to conclude that the amount of heat, generated in a given period by the combustion of carbon in the living body, as measured by that which is evolved by the production of an equal amount of carbonic acid, by the ordinary combustion of carbon, is fully equal to the maintenance of the animal temperature.

A more exact experimenter, however, M. Dulong, observed that there was much more oxygen absorbed by the respiratory process than was necessary to convert the carbon into carbonic acid—sometimes amounting to fully one-third more. The inquiry naturally arose how is this excess of oxygen disposed of? Dulong conjectured, and the supposition has generally received the assent of physiologists, that this surplus of inspired oxygen was expended in the combustion of hydrogen—the two gasses being thus converted into water—which is exhaled in the form of vapor from the lungs; and this view certainly derives some confirmation, from the fact (if it be a fact) that oleaginous articles of diet have a greater heat generating

power than the farinaceous parts of food. The latter contain only equivalents of hydrogen and oxygen, and have a surplus of carbon alone; while the former have a much larger proportion of hydrogen than of oxygen; the excess of which must be oxydized and got rid of in some form.

In the process of starvation, too, the fat of the body is gradually absorbed, and the presumption is, that its hydrogen is removed by a process of oxydation, and in the form of watery vapor.

It is not at all improbable, however, that as the investigation of the subject progresses, our views upon this point shall undergo some modification, for it cannot be regarded as well settled.

Such is a succinct abstract of the progress of this important physiological inquiry, when its elucidation was undertaken by the celebrated chemical philosopher of the university of Giesen, the distinguished Leibig.

This learned and industrious professor has entered very elaborately and minutely into the demonstration of this theory of animal heat, and seems to have proved very conclusively, that all the non-nitrogenous elements of the food of animals can serve no other purpose than that of sustaining the temperature of their bodies.

His views, however, have not commanded universal assent. They have encountered the decided opposition of Dr. Graves, of Dublin, as will appear from the following condensed analysis of Leibig's views, and the comments thereon, taken from Dr. Graves' clinical lectures.

The following is the abstract of Leibig's theory, just alluded to:

The carbon and hydrogen of the food, in being converted by oxygen into carbonic acid and water, must give out as much heat as if they were burned in the open air—the only difference is, that the heat is spread over unequal spaces of time, but the actual amount is always the same. The temperature of the human body is the same in the torrid as the frigid zone. But as the body may be considered in the light of a heated vessel, which cools with an accelerated rapidity, the colder the surrounding medium, it is obvious that the fuel necessary to retain its heat must vary in different climates. Thus, less heat is necessary at Palermo, where the temperature of the air is that of the human body, than in the polar regions, where it is about 90° lower. In the animal body the food is the fuel, and by a proper supply of oxygen we obtain the heat given out during its combustion in winter.

When we take exercise in a cold atmosphere we respire a greater amount of oxygen, which implies a more abundant supply of carbon in the food, and by taking this food, we form the most efficient protection against the cold. A starving man is soon frozen to death, and every one knows that animals of prey, of the arctic regions, are far more voracious than those of the torrid zone. Our clothing is merely an equivalent for food, and the more warmly we are clothed, the less food we require. Were we to go destitute of clothes, like certain savage tribes; or, if in hunting and fishing, we were exposed to the same degree of cold as the Samoyedes, we could, with ease, consume ten pounds of flesh, and perhaps a dozen tallow candles into the bargain, as warmly clad travellers have related, with astonishment, of these people. Then could we take the same quantity of blubber of fish, without bad effects, and learn to appreciate the delicacy of train oil.

We thus perceive an explanation of the apparently anomalous habits of different nations. The maccaroni of the Italian, and the train oil of the Greenlander and the Russian are not adventitious freaks of taste, but necessary articles fitted to administer to their comfort, in the climates in which they were born. The colder the region, the more combustible must the food be.

Dr. Graves, in commenting on the foregoing summary, remarks: "It is, I must confess, new to me that our clothing is merely an equivalent for food, and that the more warmly we are clothed, the less food we require. Take the well clad and warmly clothed country squire, and compare the quantity of food he devours with that which is consumed by his ragged laborers, and it may be asserted that the balance will be as much in favor of the squire's food as of his raiment. The voracious Samoyedes referred to, however barbarous in their manners, are an extraordinary warmly clothed race, and the semi-putrid fat and blubber of whales agrees with the stomach of the Laplander as well in summer as in winter. In the arctic and cold regions of the earth, man is driven, by necessity, to subsist on animal food, which is supplied to him from the unfrozen depths of the ocean; for, in those inhospitable regions, vegetable life is almost a stranger; and, therefore, it is, that the Laplander, the Greenlander and the Samoyede subsist almost exclusively on animal food. In the expeditions of Franklin, Parry and Ross, our countrymen braved all the rigors of an arctic winter on the same food which they were in the habit of consuming in mild climates; and if it be true, as stated in the above passage, that in the animal body, the

food is the fuel, and by a proper supply of food, we obtain the carbon given out by its combustion in winter; if this be true, it is strange that there is no record of its being found necessary to give our sailors more food during extreme cold, than at other periods. Facts are wholy inconsistent with Leibig's allegations. All hunting tribes of mankind, whether in northern, temperate or tropical regions, subsist chiefly on animal food. This is true of the North and South American Indians, and it is true of the Hottentots; and indeed our travelers relate prodigies of gluttony enacted by the latter;—for, when after a long fast, they suddenly obtain abundance of game, they will sit up the whole night, occupied in cooking and devouring steak after steak, unaccompanied by a morsel of vegetable food, and at such times so indefatigable are they in the business of eating, that the party, which over night had tightened their famine girdles to the last hole, have enormously distended abdomens on the following morning; this, too, in the heat of Africa, where certainly no additional food was required for sustaining the animal temperature.

"If Leibig's theory be correct, that animal food is peculiarly adapted to cold climates, how comes it that the most voracious, carniverous animals abound in the hottest regions of the earth. The Bengal tiger, and the African lion, and the boa constrictor of South America, together with the alligators and crocodiles of the Nile, the Ganges and the Oronoko, all subsist solely on animal food; and, on the other hand, among the whale tribe, it is observable that they abound, in every variety of oceanic temperature, where the appropriate animal food occurs; and the same observation applies to fishes in general. Take the antelope and the gazelle of Africa, which would shiver with cold during the warmth of an English summer, and compare them with the Reindeer that bears with impunity, and that for months together, a temperature far below that of zero, and how can we explain the difference by Leibig's theory, for they both subsist on vegetable food. Facts, such as these, are not merely irreconcilable with, but destructive of, that theory."

This severe and rather flippant denunciation of the theory of animal heat, here called Leibig's, but which the Giesen professor has merely illustrated and explained with great industry and precision, does not touch the essential point of the theory. It may prove very conclusively that the commonly received notion that the non-nitrogeneous elements of animal food have a greater heat-generating power, than those of vegetable food, is not founded in correct observation. But it does not prove that these elements, of both kinds of food, are not

the agents for producing and sustaining the heat of the body, which is the essential feature of the theory.

If, with Leibig, and indeed with every other physiologist, we hold that the increase of the mass in the human body—the developement of its organs, and the supply of its waste, depend on the blood, that is, the ingredients of the blood, it is obvious that only those substances can properly be called nutritious, which are capable of being converted into blood.—To determine, therefore, what substances are capable of affording nourishment, it is only necessary to determine the composition of the food, and compare it with that of the blood.

Chemistry has determined that the fibrine and albumen of the blood are identical in composition with muscular fibre, and further, that vegetable albumen, vegetable fibrine and casein are identical with animal albumen, fibrine and casein.

All parts of the animal body which have a decided shape—which form parts of organs—contain nitrogen. The chief ingredients of the blood contain 19 per cent. of nitrogen, and no part of an organ contains less than 17 per cent. of nitrogen.

The most conclusive experiments have proved that the animal body is incapable of producing an elementary body, such as carbon or nitrogen, from substances which do not contain it, and hence it follows that all kinds of food fit for the production, either of blood or muscular fibre, must contain a certain amount of nitrogen, for it is essential to the composition of the organs, and the organs cannot create it from the other elements presented to them.

The nitrogenous elements, then, of both animal and vegetable food, are those which go to the composition of the tissues of the body. But food, both animal and vegetable, contains other elements, which can answer no histogenetic purpose in the economy, for they contain none of the constituents of the tissues. Such substances as sugar, starch, gum from vegetable food, and fat from animal food, contain no nitrogen, and cannot be used for the purpose of supplying the waste of the tissues.

It is these non-nitrogenous elements of the food which the theory, under consideration, supposes are used for the purpose of sustaining the heat of the body, by undergoing a process identical with combustion. They constitute the respiratory pabulum.

The recent highly interesting experiments of a distinguished French physiologist—M. Bernard, of Paris—on the functions of the digestive organs and that of the liver, go to show that

one of the important functions of the latter organ, is to prepare the respiratory pabulum, not so much by separating it from the blood as bile, but by transforming certain of the elements of the blood into a species of sugar, to which he has given bile sugar. This saccharine material fabricated in the liver, passes on through the right cavities of the heart, to be exposed in the lungs to a process of oxydation.

This form of sugar differs from grape sugar, as grape sugar does from cane sugar, in the quality of being far better tolerated by the blood, and in being more readily converted into lactic acid. It is not traceable farther than the pulmonary vessels, being speedily transformed, and, in great part, eliminated from the lungs by the respiratory process.

M. Bernard has found this form of sugar in the liver and hepatic vein of carniverous animals—in the mamalian fœtus, and in the embryo chick, and so constant does this substance appear to be, that it must henceforth be regarded as one of the functions of the liver, to prepare this peculiar kind of sugar for the respiratory process.

Moreover, the analysis of Scherer has demonstrated that another form of sugar, which he calls *inosite*, is one of the results of the disintegration of muscular tissue.

This is re-absorbed into the circulation, and may be further transformed by the liver before undergoing final oxydation and elimination through the respiratory organs; and, if this observation is well founded, it furnishes a beautiful illustration of the economising character of the animal body, in thus appropriating a portion of its worn-out tissues—its *debris* to another useful purpose—that of sustaining its temperature.

But the combustion of hydrogen, as well as that of carbon, must be regarded as a source of animal heat. It has been ascertained by M. Barral, that in winter 321.1 grains, and in summer 252.8 grains are eliminated at the expense of the atmospheric oxygen, and must have undergone the combustive process, whereby heat could not but have been generated. There are, also, other oxydising processes going on in the system, by which heat is also generated. The sulphur and phosphorus contained in the protein compounds of the food, undergo oxydation, and are converted into sulphates and phosphates, which are eliminated by the renal excretion.

Now, without calling in question the correctness of the hypothesis, which ascribes a heat-generating power to the oxydation of the non-nitrogenous elements of the food, I am inclined to regard (paradoxical as it may seem) the opinion of the older physiologists, which ascribed a refrigerating effect to

the respiratory process, to some limited extent at least, as well founded.

When we consider the extent of surface which the respiratory organs present, exceeding largely the exterior superficies of the body, and reflect that this entire surface is necessarily and continuously exposed to the atmosphere, which is almost always cooler than the body, and often many degrees colder, it is very apparent that from this source alone the body must be deprived of a large amount of caloric.

Moreover, when we consider the great amount of pulmonary exhalation, (too great to be regarded as the result of the oxydation of the hydrogen of the food,) and view the lungs as an extended surface from which a large amount of watery fluid evaporates, this effect must be greatly increased.

Chemistry informs us that evaporation is a uniform source of cold, and if it acts as a cooling process, when it takes place from the exterior of the body, there can be no valid reason assigned why the same result should not follow, when it takes place from the pulmonary surface.

The fact, however, that a refrigerating process is going on in the lungs, instead of throwing doubt upon the correctness of the theory which we have been considering, may be regarded as affording it strong confirmation; for it places, in strong light, the necessity for the production of a large amount of heat to counteract its effects. The large amount of non-nitrogenous food which animals require, and the sugar which is formed in the liver, may be regarded as essential provisions for sustaining the equilibrium of temperature in the lungs, which are subjected to so powerful a refrigerating process.

But, though such ample provision appears to have been made for sustaining the animal temperature, a little reflection must, I think, convince us that this cannot be the primary or most essential function of respiration.

The air we breathe seems to be *par excellence*, and, in a widely extended signification, the pabulum of life; more immediately and constantly indispensible, than any other condition of existence. If deprived of it for a few moments, the animal perishes long before its temperature is at all diminished; nor will the maintenance of the temperature artificially, by external warmth prolong life under such circumstances.

What then is that function of respiration which is so immediately essential to life that it cannot be dispensed with, even for a few moments?

Physiologists tell us that it is the extrication of carbonic acid from the blood—that the body generates within itself, as

one of the products of its vital processes, a poison so fatal to it, that its retention cannot be tolerated, even for a few moments, with safety.

Now, in direct antagonism to this hypothesis, stand the experiments of Prof. Magnus, who found that arterial blood contains twenty per cent. of its volume of carbonic acid, while venous blood contains only five per cent. additional.

It would appear then, that although it may be a very important part of the complex function of respiration, to rid the body of a large portion of carbonic acid, that this can hardly be that primary and indispensable function of the pulmonary apparatus, which will not admit of a moment's suspension. It may indeed be, and probably is, only one of the results of a more recondite and important process.

It is somewhat confirmatory of this view, also, that an atmosphere of pure oxygen is as certainly, though not as speedily, fatal to animal life as carbonic acid itself, and in an atmosphere of oxygen, the liberation of carbonic acid must necessarily be very rapid.

If, then, neither the maintenance of the animal temperature, nor the excretion of carbonic acid, can be regarded as the primary and essential function of respiration, where shall we seek an explanation of it.

We must recollect that there is another organ in which the first recognisable movements of life begin, and which keeps constantly in motion, until its close. The heart beats more rapidly than we breathe, and its motion cannot be suspended any longer than the respiratory movements—not so long, in fact.

Hence, I think, we may infer, with much show of reason, that the preservation of the power of this vitally important organ—its irritability and contractility is the essential and primary object of the respiratory functions. This includes, also, the maintenance of the irritability and contractility of the whole muscular system, both of animal and of organic life.—Another equally essential function of the respiratory process, is the generation and maintenance of nerve force.

This it accomplishes by furnishing the oxygen, which is essential to the metamorphosis of the tissues, which is now regarded as the source of power, both muscular and nervous.—By those physiologists who regard the action of the heart as dependent on the nervous system, the generation of nerve force would be esteemed the more essentially important function.—But the heart does not seem to be entirely dependant upon the nervous system. Its irritability appears to be an inherent property, and it is endowed with it in an eminent degree.—

By the term irritability, is meant the capability of being easily excited to movements of contraction alternating with relaxation. Even after the organ has been removed from the body, the application of a stimulus will cause it to contract, and even to execute a series of contractions. It is therefore apparent that its irritability is not derived from the nervous system.—The same remark is applicable to the entire muscular system, both voluntary and involuntary, although they are evidently influenced and regulated by the nerves. The two systems seem to be materially interdependent, and it would be difficult to determine whether the heart is more dependent on the brain the brain on the heart.

All physiologists agree that the energy of muscular contraction depends upon the supply of arterial blood, which the muscle receives. When this supply is cut off by ligature, a partial or complete suspension of muscular power occurs, and is only restored when a collateral circulation is established. The influence of the supply of blood is two fold. It furnishes the nutritive material necessary to repair the waste of the tissue, and the oxygen necessary to enable it to undergo the metamorphosis essential to preserve its contractility.

When we reflect on the great amount of power which is expended by the muscular efforts of animals, often violent and protracted, the rapid and constant renewal of this power, it is apparent, must demand a special provision; and hence, the question as to the mode in which this power is generated, as well as that of nerve power or force, assumes great importance as a physiological problem. The phenomena of motion in animal bodies has, of late, been very industriously investigated by the continental chemists and physiologists.

It is now regarded as an established point, that no motion takes place, except at the expense of the muscular tissue in which it occurs. In the language of Leibig, "the immediate effect of the manifestation of mechanical force, is, that a part of the muscular substance loses its vital properties—that this portion separates from the living parts, and all experience proves that the conversion of living muscular fibre into compounds destitute of vitality, is accelerated or retarded according to the amount of force employed to produce motion. Nay, it may safely be affirmed that they are mutually proportionate; that a rapid transformation of muscular fibre, or, as it may be called, a rapid change of matter, determines a greater amount of mechanical force, and, conversely, that a greater amount of mechanical motion (of mechanical force expended in motion) determines a more rapid change of matter."

*Lehmann, from his micro-chemical experiments, arrives at the conclusion, that the protein substance extractable from the fibrillæ of muscle, by extremely diluted hydrochloric acid, is the most essential element of animal motion; it is one and the same in the striated muscular fibres, in the smooth muscles, and in those tissues which were formerly termed contractile. It is, however, peculiar to those organs only, whose power of movement is dependent on the nervous system. But the changes which it undergoes have not been fully explained by chemistry.

According to the same authority, there is a fluid which bathes and moistens the tissues in which the contractile fibres lie, which is distinguished by its acidity, and is altogether different from the plasma of the blood. Wherever contractile fibre or fibre cells occur, this permeating fluid always contains a preponderating quantity of potash salts, and phosphates; while, on the other hand, the blood plasma is poor in these salts and rich in alkaline chlorides and soda salts. This antagonism between the intercellular fluid of the blood cells and the interstitial fluid of the contractile fibres, cannot be a mere accident. Leibig had already shown that this antagonism must give rise to an electrical current, or must be occasioned by an electrical current.

This point has, however, been more extensively illustrated by Carlo Matteucci than by any author I have had an opportunity of consulting. M. Du Bois Reymond is said to have thrown much light upon this difficult question, and to have cleared up some of the difficulties met with by Matteucci.—But I have had no opportunity of consulting his paper on the subject.

The learned professor of Pisa, by using a very delicate instrument, which he calls a *galvanoscope*, and which consists of the insulated leg of a frog, with the crural nerve attached, has been enabled to detect an electrical current in the muscles.

By placing the nerve of the galvanoscope in contact with two different points of a muscle, the existence of the electrical current is made apparent by the contractions exhibited by the muscle of the frog's leg.

From numerous, careful and diversified observations, Matteucci arrived at the conclusion that the direction of the electrical current of a muscle, is from the interior to the surface of the same muscle. He found, also, that the current is of longer duration, but of feebler intensity in cold blooded, than in warm blooded animals. If the artificial muscular piles

with which he experimented, were made from the muscles of fishes or frogs, they gave, for several hours after death, perceptible signs of the electrical current; while those made from the muscles of mammalia and birds, ceased to do so at the end of a few minutes.

He found, moreover, that none of the other tissues of the body, neither the membranes, the nerves, the liver, the brain or lungs exhibited any sign of an eclectrical current. The heart gave indications of a strong current; but the heart is a muscle.

He states, also, that the current produced by a certain number of muscular elements, had the same intensity, and was of the same duration, whether they were placed in hydrogen, oxygen, carbonic acid, or air more or less rarified. On this point, however, he is contradicted by the younger Leibig, who has been more recently engaged in the investigation of this subject.

Leibig states that a muscle cannot contract unless oxygen be present, and he found that the muscles of the frog retained their capacity for contracting longer in an atmosphere of oxygen than in a non-oxygenous atmosphere—longer than in carbonic acid, nitrogen or hydrogen. He also ascertained that as long as the capacity for contraction existed, oxygen was absorbed, and a corresponding amount of carbonic acid exhaled. To this process, he has given the name of *the respiration of muscles.*

Weber, and perhaps other micro-chemical experimenters, have discovered that the smallest fibre or fibre cell, both of the striped and unstriped muscles, contract on the application of the galvanic current, and the phenomenon of the contraction of the entire muscle on the application of the current, is too familiar to require the support of any special authority; and yet, neither Matteucci nor Leibig are disposed to regard electricity as the agent of muscular motion.

Leibig remarks that the cause of these phenomena is not chemical force; it is not electricity or magnetism; it is a force which has certain properties in common with all the causes of motion and of change in form and structure in material substances. It is a peculiar force, because it exhibits manifestations which are found in no other known force.

Matteucci remarks that in the normal condition of the muscle, there can only be molecular currents produced by the formation and destruction of opposite electrical conditions in the same points. But if a great number of points of the muscular fibre be put, by means of a good conductor, in communication with others of a different nature, which do not suffer

the same chemical action on the part of the blood, the electrical current should then circulate. It is this fact, furnished by experiment, which proves, at the same time, the developement of electricity in the living muscle, and the impossibility for the current to circulate in the mass of the muscle in the natural condition.

He seems to think, too, that Leibig's theory, which ascribes the electrical current to the combination of the acid of the muscle with the alkali of the blood, altogether untenable.—Lehmann, however, sustains Leibig on this point.

Some very plausible reasons might be urged in favor of the opinion that electricity is the immediate agent of muscular motion, notwithstanding the opposition of such high authority. We have good reason for believing it to be one of the great agents of motion in the physical world, and we have seen that the arrangement and conditions of muscular fibre are such as are well calculated to generate this force, and that it is, in fact, generated. Experiment proves, too, that muscular fibre is obedient to this force.

But whether we admit the intermediate agency of electricity or not, the fact that muscular structure generates within itself, its own capacity for motion by the disintegration of a portion of its tissue, by the agency of atmospheric oxygen, may be regarded as a point well established, and this must be considered one of the great primary and essential functions of the respiratory process.

In the structure of an animal, evidently the great object to be accomplished, is to confer upon it the power of locomotion, and the ability to regulate and control that power.

We have just been considering the manner in which that part of the power of locomotion, which consists of the capacity of being acted on, is acquired. We will now refer, very briefly, to the manner in which the power to act on, to regulate and control the locomotive apparatus is attained.

We find that this power of regulating and controlling the locomotive apparatus of animals has its seat in the nervous system—in the brain and spinal marrow.

The essential condition upon which the functional activity of the brain and spinal marrow depends, is like that of the muscular system—a due supply of oxygenated blood. If we deprive the brain, even for a few moments, of this supply of blood, a loss of voluntary motion instantly supervenes, and is not recovered until its circulation in the brain is restored.

It may be regarded, too, as a well established physiological truth, that the functional activity of the nervous system de-

pends upon the combination of the oxygen of the blood with its elements—that is, upon the disintegration of its tissue.

We must not regard, however, the amount of *motion* to which it gives rise, as the measure of the activity of the nervous, as it is of the muscular, system. A vigorous exercise of the intellectual functions, or strong emotional excitement, there is good reason to believe, is attended with a waste of nervous matter. The same is probably true of every exercise of the will, which calls into activity the muscular system.

The generation of force then, and as first in importance, muscular and nerve force, seems to be the primary and essential function of respiration. As the waste of the tissues is in the direct ratio of the exercise of the functions of the muscular and nervous systems, so, also, is the demand for nutritive material to supply the waste thus occasioned; and, in this fact, we find the explanation of the voracious appetite of the laboring animal, and of the carnivora.

The carniverous animal especially, expends a large amount of muscular force in the pursuit of its prey, and probably does not commence the pursuit until impelled to it by hunger.—Hence, the ravenous appetite with which it devours the repast when procured. Hence, also, the prodigies of gluttony exhibited by the Hottentot and the American Indian, whose tissues have undergone great waste by protracted fasting and the exercise of the chase after game.

I, by no means, wish to underrate the importance of the calorific function of respiration. The preservation of the animal temperature, at a uniform standard, cannot be esteemed otherwise than highly important, when we consider the ample provision which appears to have been made for generating and sustaining the heat of the body.

If, indeed, all the vital forces be convertible into each other, according to the views of Grove and Carpenter—if heat, electricity and nerve force be correlatives, heat, itself, may be one of the great sources of motive power. We know it to be so in physics.

Under this view, heat may serve the double purpose of producing motive power, and, at the same time, sustaining the animal temperature.

In the foregoing observations my design has been to exhibit the important and seemingly complex function of respiration; not, perhaps, in a strictly novel light, but in a point of view somewhat different from that which is usually taken of it; and to elevate into higher importance, in connection with it, those great functions of the animal economy to which it is clearly subservient, and which seem to have been overshadow-

ed by the generally received doctrine which regards the preservation of animal heat, and the elimination of carbonic acid from the system, as its chief and most important function.

Nor should the views which have been just presented of the mode in which the vital forces are generated, lead us to the inference which has been reached, illogically I think, by some writers, that the constant changes or metamorphoses of matter, which seem necessary to sustain them, constitute life itself.

Sir Humphrey Davy and Cuvier appear to have entertained the opinion that life consists in a perpetual series of corpuscular changes; though it would seem clear that life must, of necessity, precede any change, whether formative or retrograde.

Humboldt, and many others, regard the vital forces as but modifications of the ordinary forces of matter acting under peculiar conditions. But these peculiar conditions embrace the unsolved difficulties of the problem. Others regard life as a subtle material superadded to the organism.

But whichever opinion we adopt, whether we regard the vital principle as a distinct entity, or regard life as the mere result of the operation of the general laws of matter, acting under peculiar conditions, we are logically forced, at last, to the conclusion arrived at by many, and, among others, by the distinguished Professor of the Practice of Medicine in the Medical College of South Carolina, who, in a recent essay upon the subject, remarks: "I find a Supreme Being as absolutely necessary in Philosophy, as Robspeire did in socail life."

All our knowledge—in the language of that strictest of logicians and profound metaphysician, Sir Wm. Hamilton—is merely phenomenal and conditioned. Of the absolute and unconditioned, we can know nothing. Hence, of life in the abstract, we can know nothing.

It might, indeed, be very satisfactory to be able to arrive, by strict logical inferrence, at the conclusion that life is the result of the operation of the general laws of matter; or, on the other hand, to be able to prove conclusively the existence of an independent vital principle. But, in either case, its processes would still be mysterious, and perhaps inscrutable. We should still be unable to explain how, from the egg of the bird, for instance, bone and membrane, and flesh and plumage of a definite color, proceed all from an apparently homogenous mass of albumen. Nor could we explain how the special, but infinitely diversified forms of animated nature are invariably preserved.

Our knowledge would still be restricted to the phenomena which living beings present, and we should still be constrained to rest satisfied with the conclusion that "The hand which formed us is divine."

ESSAY BY
DR. L. L. HOLMES.

"Simple views, whether of health or disease, however ingenious, can seldom be just. "They have their origin in the spirit of system—not in the careful study and faithful "enumeration of the complicated circumstances which concur in the production of all "vital phenomena."—*Thompson on Inflammation.*

In detailing a few cases of Epidemic Dysentery, I shall offer a few remarks on the pathology and treatment of that disease, as it prevailed in the county of Chatham, and in those persons who came under my professional care and observation.

A regular detail of symptoms as they occurred, the time, and order of the administration of remedies, &c., will be found wanting in this report, as there were no notes taken of the cases at the time of their occurrence; but sufficient can be gathered from memory to answer my present purpose.

Dysentery has always been acknowledged a disease of decided inflammatory character; (at least by those who are not of the school of Humoral Pathology, and have just views of disease;) and is confined to the mucous membrane of the alimentary canal. I shall not go into an enumeration of all the symptoms of this disease, as they are familiar to every one; but will stop here, to speak of Dysentery as an inflammatory disease, and differing only in degree, and not in kind, from all other inflammations of the body.

As like causes produce like effects, so, *ceteris paribus,* it might be supposed that two diseases, differing in their general external features, were produced by different agencies; but, since this will not hold good in the proper interpretation of disease, and its causes, it is reasonable to suppose, aye certain, that there is not that difference in the cause and *modus operandi* of disease which is thought, by many, to exist.

Whatever difference may exist, in the remote or predisposing cause, it is more in degree than in kind.

In malignant fevers, the difference in the type is more owing to the degree of concentration, (all things being equal,) the predisposing cause may have have undergone, as in malaria, which, at one season produces intermittents, and another, billious remittent—than to the kind of cause; consequently, there may be a peculiarity attached to every degree which the predisposing cause may assume. Yet this change of degree does not produce a distinct cause.

Crude and indigestible food may act both as a predisposing and exciting cause; but such more generally acts as an exciting, than predisposing cause.

Such a cause as the mechanical irritation of indigestable sub-

stances in the stomach, acting in either or both ways, can never originate a disease like Epidemic Dysentery, or malignant disease.

The Dysentery which prevailed in this County proved to be of a very intractable and fatal character; though, it is proper to state here, that the first few cases in my care were easily managed, though the symptoms were quite urgent.

I have seen cases, which occurred during the same season, with less acuteness of symptoms and suffering, and where there was less apprehension of danger; but they were fatal in their tendency.

I am induced to think that the greater part of the disease of our Southern climate, at least, has, for its predisposing cause—and, in some instances, exciting cause also—some agent which acts in a very profound manner upon the system; sometimes producing an explosion of disease suddenly, where the system is predisposed, by previous derangement, causing a greater susceptibility to the influence of morbific effects; at other times producing the very same disease, but at a more remote period from the time the system was first under the influence of the predisposing cause. It is admitted that the same cause that produces the common intermittent, also produces the remittent fevers in persons of the same habits, constitution, susceptibility, &c. We know, too, that inflammations of the different tissues of the body, as of the pleura, lungs, &c., are often complicated, and, in fact, spring from the above types of fever; the Billious form, more generally, presenting what is termed Billious Pneumonia, Billious Pleuresy, &c.

Now if the different diseases above mentioned, are produced by the same cause in kind, we may be allowed to carry the analogy still farther, and apply it to nearly all fevers and inflammations, except those of a specific character; and show that the difference in the type of all diseases is owing to the difference in degree of the same cause, affecting all the cases, as seen in the case of remittents and intermittents.

In remittents, we have, supervening upon the original attack of disease, inflammation of some one of the great organs of the body, as the stomach. Here the inflammation of the stomach is as much under the influence of the predisposing cause as the general system; but is modified according to the peculiar degree of the predisposing cause.

In the same disease, we notice that the mucous membrane of the alimentary canal becomes engaged; and irritation or inflammation may follow.

Though these conditions may arise long after the predisposing cause may have ceased to operate, yet they are, no doubt,

modified by the peculiar influence left upon the system by the predisposing cause.

Malaria, in my humble opinion, is the chief agency in the production of all the grave fevers of our Southern climate at least, if not in all.

But it is objected, that because that which is called Malaria, or diseased air, cannot be detected by the investigations of art, it does not exist; which would be doubting the evidence of our senses; for we must allow that effects exist, the cause of which cannot be demonstrated; and it is sophistry to suppose the non-existence of an element or substance, because it cannot be resolved in the crucible of the chemist, nor detected in the laboratory.

Nature's laws are immutable, and are not to be tested in the laboratory, nor by chemical experiments on dead inorganic matter. Nature proclaims the existence of things which are not demonstrable, and conditions which are not understood; concerning which, reason must submit to the limits of its powers.

In accordance with our views of Malaria, as the predisposing cause of all Epidemic and malignant disease, we will assert our conviction, which is founded upon what, in our judgment, is the correctness of analogical reasoning, that the disease called Epidemic Dysentery, which prevailed in this vicinity, was of Malarious origin.

It is well known that the year previous to the explosion of this disease, was very dry, and that the spring season was attended with almost constant rains. A drought, immediately after the rains, set in, and continued until the ponds, creeks, and rivers were dried up, with the exception of small pools, here and there, of stagnant water in the beds of the streams.

No cases of Dysentery occurred, to my knowledge, until 25th April, 1851; when I was called to H—— B——, a young man, aged 25, of robust constitution habits and temperate.—Found him suffering great tormina in the bowels, motions very frequent of blood and mucous—good deal of nausea, pulse full but not very frequent, some incompressibility. He had taken Castor Oil, "Jayne's Carminitive," and other nostrums, without benefit; tongue somewhat coated, the pappillæ being slightly raised, and of a whitish color.

Prescribed Pul. Ipec. in half gr. doses every two hours, advising the use of the Black Drop in small doses, for the relief of pain, but not with a view to arrest the discharges as an astringent; also, advised the use of teaspoon doses of Ol. Ricini, with a view to its specific action on the liver, and in concert with the alterative action of the Ipecac on the same organ, and the system generally.

The remedies were used by the patient, promptly and faithfully, and he was relieved in two or three days. The recovery in this case was so prompt, that I never saw the patient but once.

I have mentioned this case to show some circumstances of interest attending it, relative to the features of the case; the time of developement—location of residence—and all together, as bearing upon the predisposing cause of the disease in question.

The fact of the patient living in the immediate vicinity of a mill pond, the water of which had been evaporated during the continuance of the drought, to a sheet of stagnant mud and water, highly impregnated with decayed and decaying vegetable matter; while, at the same time, others being taken with the premonitory symtoms of the disease, gave us reason to suppose that the cause of the disease was of malarious origin.

Here was a case of disease, produced by malaria, which had been incubating in the system but a very short time, before some exciting cause, such as crude aliment, had produced an explosion. Moreover, the physical condition of the elements that produced the malaria had not been acted upon a sufficient length of time to concentrate the predisposing cause sufficiently to produce a malignant form of disease; hence we find this patient suffered a mild attack.

I deem it proper to state, that there were other milder cases in the same family that recovered without medical treatment.

But, how different with those who were attacked subsequently! Not ten days from the time I have mentioned, there were two or three deaths from the same disease, in a stone's throw of the mill pond before alluded to. About this time, symptoms of congestion presented themselves in the course of the disease.

May 2d, was called to and visited Mr. O*** A***, aged 72 years. I shall mention, that I had been this gentleman's adviser in a very aggravated form of habitual constipation, which he had laboured with for several years; and had nearly restored his bowels and liver to their wonted tone and action, but a short time before being called to him in his last illness. He had suffered more than once from hemorrhage of the bowels, a consequence of the diseased condition of the system engendered by the disease alluded to.

Found the patient with great tormina, having very frequent discharges of mucous, which were thin and bloody; some confusion of intellect, great restlessness and anxiety, nausea, which preceded each motion of the bowels; pulse more accelerated than I had expected to find it, from the fact that its habitual character was slow and intermitting, which had been

symptomatic of the diseased condition of the liver. Prescribed Ipecac—gr. ½ every two hours—which produced emesis after the second dose, bringing up a small portion of morbid bile of a pale blue color. Here I was at once admonished that imminent mischief prevailed at the citadel of life, and that a fearful state of venous congestion existed in the liver.

Immediately administered Hydrg. Bichloridum, gr. 10, and continued the Ipecac. The discharges not lessening in frequency, added a small portion of Pul. Opii. to the Ipecac.

Feeling great anxiety for the patient, and not wishing to bear all the responsibility of the case, I requested a consultation, to which the family agreed, and Dr. John A. Hawks, of Pittsboro', was called to my assistance.

All the feautres of the case were very alarming, and were raging with the utmost vehemence. The treatment first instituted, was continued with the addition of Mass Hydrg. in suitable proportions, forming a pill of Mass Hyd., gr. ¼; Pul. Opii., gr. ¼; do. Ipecac, gr. j. To be given once in 4 hours.

This, with enemata of mucilage and Sul. Morphia, was the general treatment; only varying the proportion and quality of the ingredients to suit the *individual case*, and meet the demand of the changes of the morbid conditions.

There was but temporary relief obtained in this case, by the remedies used. The patient died on the fifteenth day from the attack, after having suffered hemorrhage from the bowels for seven or eight days, which nothing would arrest.

Nature seemed prostrated beyond a recuperative effort. I stop here the report of cases, as an elaborate detail of symptoms, and prescriptions, cannot enlighten any one in the phylosophical treatment of disease, and the interpretation of the *modus operandi* of medicines.

A rational treatment should be pursued in all cases of disease, and this leads me to say, that I have seen more empirical practice in Epidemic Dysentery than any disease, perhaps, which I have ever seen treated.

Losing sight of the true pathology of the disease, physicians persevere in the application of what are called astringents to arrest the discharges!

Doses of opium have been given and repeated at regular intervals, for the same intention; but to what effect? certainly not to an alterative effect upon the diseased actions which are engaged in the production of the matters discharged from the bowels, which is only a symptom of the disease.

The opiate, in such doses as will produce a soporific effect, lessens irritability to such a degree, that other remedies which are appropriate, and might produce the desired alterative in-

fluence, become inert or morbific. Mercury has, also, been dealt out with an unsparing hand, either through ignorance of its peculiar virtues and varied actions according to the variation of dose, time of exhibition, &c., or from a simple knowledge that it is a purgative, and adapted to the liver.

I have seen bad effects from the use of mercurials in this disease, because they were given in too large proportions, which transcend the proper therapeutical effects of that remedy upon the disease.

I do not wish to be understood as opposing the use of mercurials or opiates in dysentery; I believe them to be useful, but only so, in their proper therapeutical doses, which will be found to be very small.

It is the inflammation, in dysentery, (as well as in Pneumonia,) and the resulting complications, which produces the mischief; yet this seems to be lost sight of, and is generally allowed to go on undisturbed to the destruction of its victim, without receiving one decisive blow from the hand of art. A popular remedy in dysentery, one, too, which is *experimented* with by men in the higher walks of the profession, is pulverized charcoal; the experimentalists claiming for it the property of a chemical agent.

They say that it acts as a neutralizer of the morbid acids generated in the stomach and intestines, which irritate their already inflamed surfaces, and, by this means, is a remedy in the disease.

There are serious objections to this remedy, in dysenteric inflammation, as well as to the theory upon which its use, as a remedial agent, is predicated, its *modus operandi*, as such being based upon the chemical doctrine of disease and its cure, which, if correct, could not sustain charcoal as a remedy in dysentery; for the effects claimed for it are only local, and that, too, upon the product of disease, and not the disease itself.—There must be some effect produced by the remaining particles of charcoal, which are insoluble, and in immediate contact with the inflamed mucous membranes, and carried along the whol etract of the intestine by peristaltic action; which effect is of a deleterious character, and justly consigns charcoal to its merited position among morbific agents.

In conclusion, I will say, that the timely and bold use of the lancet, with the scientific and philosophical use of mercurials, Ipecac and Opium, or, which is preferable, henbane, as the principal remedies, administered with correct views as to their relative therapeutic virtues, is all that is necessary for the treatment and cure of Dysentery.